

Patent Claims:

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Claims 1-10: Canceled

11. (New) A shock absorber (2) with a piston rod (12) accommodated in an outside housing (14) so as to be slidable in its longitudinal direction, wherein the piston rod (12) or the outside housing (14) is equipped with a magnetic encoder (18) comprising a permanent-magnetic material with a modulated field.
12. (New) The shock absorber (2) as claimed in claim 11, wherein the permanent-magnetic material has a modulated magnetic field line progression.
13. (New) The shock absorber (2) as claimed in claim 11, wherein the permanent-magnetic material has a modulated magnetic field strength extending in the longitudinal direction.
14. (New) The shock absorber (2) as claimed in claim 11, wherein the magnetic encoder (18) has a generally tubular design and encloses the piston rod (12) in an evaluation range (16) in form-fit engagement.
15. (New) The shock absorber (2) as claimed in claim 11, wherein the magnetic encoder (18) is encompassed by a protective sheathing (20) formed of magnetically non-conductive material.
16. (New) The shock absorber (2) as claimed in claim 11, wherein the encoder (18) includes a position index (40) with a coding that can be specifically detected by an associated sensor (50).
17. (New) The shock absorber (2) as claimed in claim 11, comprising a number of magnetic field sensors (26) fixed to the outside housing (14) or the piston rod (12).

18. (New) The shock absorber (2) as claimed in claim 17,
wherein the number of magnetic field sensors (26) is arranged on a sensor carrier which concentrically encloses the piston rod (12) furnished with the magnetic encoder (18).
19. (New) The shock absorber (2) as claimed in claim 17,
wherein the magnetic field sensors (26) are structurally grouped in a sensor subassembly connectable to a feed line.
20. (New) The shock absorber (2) as claimed in claim 19,
wherein the sensor subassembly is connected to the outside housing (14) by way of a snap-type or catch-type engagement.
21. (New) The shock absorber (2) as claimed in claim 19,
wherein the sensor subassembly is connected to the outside housing (14) by way of an annular locking projection.
22. (New) An assembly (4) for detecting shock absorber movements,
wherein a magnetic encoder (18) that is arranged at a piston rod (12) or at the outside housing (14) of the shock absorber (2) and comprises a permanent-magnetic material with a modulated field cooperating with a number of magnetic field sensors (26) fixed to the outside housing (14) or the piston rod (12) in order to generate output signals that are characteristic of a position parameter and adapted to be further processed.
23. (New) A system (1) for shock absorber control including a controller unit (8) with an inlet side which is connected to an assembly for detecting shock absorber movements including a magnetic encoder (18) that is arranged on a shock absorber (2) and comprises a permanent-magnetic material with a modulated field cooperating with a number of magnetic field sensors (26) in a manner suitable to generate output signals that are characteristic of a position parameter

and adapted to be further processed, wherein the system produces control commands for actors (6) associated with the shock absorber (2) in dependence on the output signals produced by said assembly.